

ABSTRACT

Lubricants are taught that can quickly and easily form a lubricating layer on a metal surface of a metal before plastic processing. Such lubricants preferably include a primary lubricating agent or component having a bridge complex that satisfies the following conditions: (1) the complex contains at least two central metal atoms; (2) at least one first multidentate ligand forms a bridge between two central metal atoms; and (3) at least one second multidentate ligand is bound to at least one central metal atom and has at least one coordinating atom that can coordinate with metal atoms, but which is not coordinated with any of the central metal atoms or is only partially coordinated with at least one of those central metal atoms. A third multidentate ligand is preferably also bound to one of the central metal atoms and may preferably include at least two sulfur atoms that are coordinated to the central metal atom.